

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated June 1, 2007 (U.S. Patent Office Paper No. 20070524). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Applicants thank the Examiner and her Primary Examiner for having conducted a personal interview with the Applicants representatives on July 25, 2007. During the interview, proposed claim amendments were presented and the reference of Zare '300 was discussed. Applicants' representatives presented arguments distinguishing the invention as well as experimental data with photographs illustrating the deficiencies in the prior art. The Examiner presented Applicants' representatives with new references that may be cited in a later office action. However, since such references have not been officially cited against application, Applicants' representatives could not substantively comment on such references at that time.

Status of the Claims

As outlined above, claims 1-2 stand for consideration in this application, wherein claim 1 is being amended to correct minor formal errors so as to more particularly point out and distinctly claim the subject invention.

Additional Amendments

The abstract is again being amended to correct formal errors and to better disclose and describe the features of the present invention as claimed. All amendments to the application are fully supported therein. Applicant hereby submits that no new matter is being introduced into the application through the submission of this response.

Formal Objections

The Examiner objected to claim 1 for formal errors and has requested correction thereof. As outlined above, claim 1 is being amended in accordance with the Examiner's requirements. Thus, Applicants will submit that this rejection is hereby rendered moot.

Prior Art Rejections

The Examiner rejected claims 1-2 under 35 U.S.C. §102(b) as being anticipated by Zare et al. (US Patent No. 4,675,300). Applicants have reviewed the above-outlined prior art rejection and hereby respectfully traverse.

The present invention as recited in claim 1 is directed to an electrophoresis apparatus comprising: a plurality of capillaries; a voltage applier applying voltage between both ends of the capillaries; a laser light source irradiating a laser; and a fluorescent detector detecting a fluorescence emitted from inside of the capillaries, wherein each of the plurality of capillaries comprises a first region coated with a polymer, a second region having a surface of the capillary exposed for a predetermined length in the longitudinal direction, and a third region defined between the first and second regions and covered with a tapered polymer coating with a thickness that becomes thinner from the first region to the second region. A slope of the surface of the coating of the third region makes an angle of 70 degrees or less from the first region to the second region relative to the longitudinal direction of the capillary.

Among the features of the present invention, each capillary has first, second and third regions with the third region being between the first and second regions and covered with a tapered polymer coating as recited in claim 1 hereinabove and as illustrated in Figure 10B. This structure has the advantage of preventing stresses from concentrating on the glass tube of the capillary tube at the edge of the coating when the capillary tube is bent after the windows are processed, thereby solving the problem of easy breakage caused by a concentration of stresses at the edge of the coating upon bending the capillary tube. In other words, the tapered coating serves like a cable holder for connectors or grommets used for electric wiring (see page 21, lines 1-11).

In contrast to the present invention, the reference of Zare '300 merely shows a fused-silica capillary 30 that has an opaque polyimide protective coating 31 on its outer surface that is removed with flame in order to produce a translucent section 32 (see col. 3, lines 32-37). Otherwise, Zare '300 does not provide any disclosure, teaching or suggestion as to the structure of the capillary 30. It is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue (see *Hockerson-Halberstadt et al. v. Avia Group International et al.*, 222 F.3d 951, 956; 55 USPQ2d 1487 (Fed.Cir. 2000), citing *In re Wright*, 569 F.2d 1124, 1127; 193 USPQ 332, 335 (CCPA 1977)). In this case, since Zare '300 is silent as to the size of the capillary 30, the Examiner is estopped from relying on a

single drawing within that reference to either anticipate or render obvious the relevant feature of the present invention.

Further, since the Examiner cannot rely on the drawings of Zare '300 and Zare '300 is otherwise silent as to the size of the capillary 30, the Examiner at best is using hindsight knowledge of the present invention as claimed as a guide for attributing the features of the present invention to Zare '300. It is well established that each prior art reference must be evaluated as an entirety, and that all of the prior art must be considered as a whole," *Panduit Corp. v. Dennison Mfg. Co.*, 227 USPQ 337, 344 (Fed. Cir. 1985). See *Para-Ordinance Mfg. Inc. v. SGS Importers Intl., Inc.*, 73 F.3d 1085, 37 USPQ2d 1237 (Fed. Cir. 1995) ("Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor."). Thus, the Examiner's reliance on Zare '300 for either anticipating or rendering obvious the features of the present invention is improper and thus groundless.

Consequently, the structure of Zare '300 is nothing more than the conventional structure discussed in the present application on, for example, page 20, lines 4-9 and illustrated in Figure 10C, and thus embodies the deficiency in the prior art that the present invention is directed to solving. In particular, the structure of Zare '300 suffers from easy breakage caused by the concentration of stresses at the edge of the coating when the capillary tube is bent. This is evidenced by the declaration from one of the inventors, Mr. Kumio Harada, who conducted experiments to illustrate the deficiencies inherent in the structure of Zare '300, and consequently in the prior art as a whole.

Applicants will note that the declaration of Mr. Harada references a chart that was inadvertently separated from the declaration. Applicants' undersigned representative is in the process of obtaining the subject chart, and will forward the chart to the Examiner as soon as received from the inventor. Applicants request the Examiner's due forbearance and consideration in this matter.

In view of all the above, Applicants will contend that the deficiencies of Zare '300 results in that reference failing to embody any structure that includes, among other features, a first region where it is coated with a polymer, a second region where a surface of the capillary being exposed for a predetermined length in the longitudinal direction, and a third region provided between the first and second regions, covered with a tapered polymer coating whose thickness becomes thinner from the first region to the second region, wherein a slope of the surface of the coating of the third region makes an angle of 70 degrees or less with the longitudinal direction of the capillary, as in the present invention as claimed. Rather, because

the polyimide coating 31 is removed conventionally by flame, the resulting structure is at best the same as the conventional structure illustrated in Figure 10C of the present application, with all the deficiencies commensurate therewith.

As such, Zare '300 cannot by itself anticipate each and every feature nor the combination of features of the present invention as claimed. The present invention as a whole is distinguishable and thereby allowable over Zare '300.

Double Patenting Rejection

The Examiner provisionally rejected claims 1-2 under non-statutory obviousness-type double-patenting as being unpatentable over claims 1-6 of US Patent App. No. 10/897,099 in view of Zare '300. A terminal disclaimer is being submitted herewith, thereby obviating this double-patenting rejection.

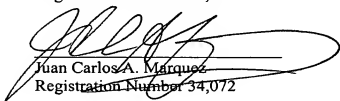
Conclusion

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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